E-Videos

Balloon traction for lumen-apposing metal stent placement for walled-off necrosis: balloon adventure in WONderland





Fig.1 Computed tomography delineating a large walled-off necrotic lesion with a maximum diameter of 13 cm and edematous thickening of the gastric wall (asterisks).



Video 1 The balloon traction technique for endoscopic ultrasound-guided placement of a lumen-apposing metal stent for solid walled-off necrosis.

The electrocautery-enhanced lumen-apposing metal stent (LAMS) has enabled simple direct puncture of walled-off necrosis (WON) under endosonographic guidance [1–3]. However, the two-step approach (e.g. use of a guidewire and balloon dilation [4]) may be required for solid WON lesions. In the current case, part of the gastric wall moved away from the echoendoscope during stent deployment and was successfully pulled back using an inflated balloon dilator (**> Video 1**).

A 53-year-old man was hospitalized for infectious WON located near the pancreatic head (**> Fig. 1**). Given the insufficient internal liquefaction, we decided to perform wire-guided LAMS placement. Following puncture from the greater curvature of the lower gastric body with a 19-G needle and insertion of a 0.025inch guidewire, we attempted to advance the delivery catheter of a 15-mm-wide LAMS (Hot AXIOS; Boston Scientific Japan, Tokyo, Japan). However, entry of the delivery catheter into the WON was impossible due to recoil, resulting in an unstable echoendoscope position as well as a gap between the lesion and the echoendoscope (> Fig. 2a). Using an 8-mm balloon dilator (ZARA; Kaneka, Tokyo, Japan), we dilated along the puncture tract and within the internal contents. We then pulled the inflated balloon to the gastric side, which successfully brought the WON wall against the echoendoscope probe (> Fig. 2b). Finally, the LAMS was placed readily (**Fig. 2c**), followed by placement of a 7-Fr nasal catheter for irrigation. Post-procedural computed tomography confirmed the appropriate stent location with no signs of leakage of the intracystic contents (**Fig. 2 d**).

In cases of WON with low-level liquefication, the short delivery system of the LAMS may hamper appropriate positioning of its distal flange within the lesion [5]. The "balloon traction" technique may be a salvage procedure when the echoendoscope position becomes unstable due to recoil during insertion of the LAMS delivery catheter.

Endoscopy_UCTN_Code_TTT_1AS_2AD

Acknowledgement

T. Saito, T. Hamada, and Y. Nakai are members of the WONDERFUL Study Group in Japan.

Funding Information

Japanese Foundation for Research and Promotion of Endoscopy http://dx.doi.org/10.13039/100018254



▶ Fig.2 Endoscopic ultrasound-guided placement of a lumen-apposing metal stent (LAMS) for walled-off necrosis (WON) using the balloon traction technique. **a** Endosonographic view showing a gap between the WON and the tip of an echoendoscope (space between arrows), with no clear visualization of the WON. **b** Endosonographic view showing an inflated balloon dilater pulling the WON against the gastric wall. **c** Subsequent successful placement of the LAMS. **d** Computed tomography demonstrating appropriate positioning of the LAMS with no leakage of intracystic contents.

Conflict of Interest

Y. Nakai has received research funding from Boston Scientific Japan, Century Medical, Fujifilm, Gadelius Medical, Hitachi Medical, Kaneka, and Medico's Hirata. This work was not supported by any of these companies. K. Kurihara, T. Saito, T. Hamada, and M. Fujishiro declare that they have no conflict of interest.

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Endoscopy 2024; 56: E458–E459 DOI 10.1055/a-2325-2070 ISSN 0013-726X © 2024. The Author(s). This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited. (https://creativecommons.org/licenses/by/4.0/) Georg Thieme Verlag KG, Rüdigerstraße 14,

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